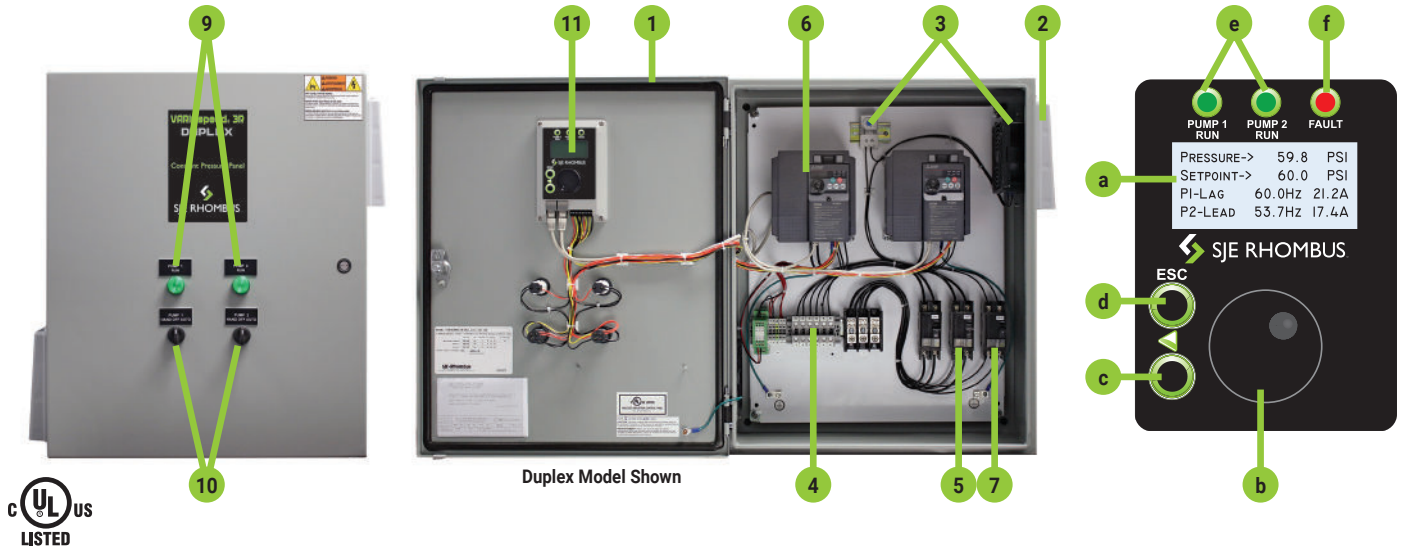


VARIOSPEED® 3R SIMPLEX/DUPLEX CONTROL PANELS

Variable Frequency Drive Controller in a NEMA 3R Enclosure

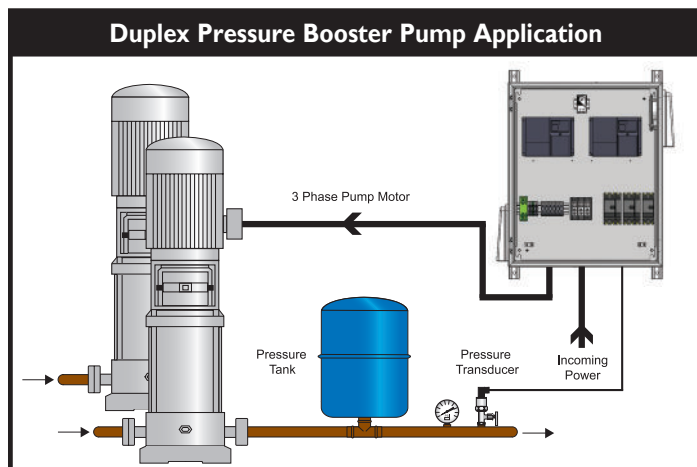


The VARIOspeed® 3R control panel is designed to control one (simplex) or two (duplex) three phase pumps in constant pressure control applications including booster pump, deep well submersible pump, and irrigation pump applications.

As flow and head conditions change in the pumping system, the VFDs are able to automatically control the pump speed and maintain a constant discharge pressure. The desired set pressure is entered on the display inside the panel. The pressure transducer measures the pump discharge pressure. Not for use with sewage pumps.

FEATURES

- Run dry protection (pipe burst or run dry protection)
- High pressure protection
- System fault log
- Five-year limited warranty on panel
- Standard package includes a 0-200 PSI pressure transducer (one-year limited warranty on pressure transducer)



COMPONENTS

1. Simplex enclosure measures 18" x 16" x 10 inches (45.72 x 40.64 x 25.40 cm) fiberglass NEMA 3R for outdoor or indoor use with removable mounting feet & locking latch
Duplex enclosure measures 24" x 20" x 8" (61 x 51 x 21 cm) (up to 5hp) and 30" x 24" x 10" (72 x 61 x 26 cm) (7.5 to 20hp) steel NEMA 3R for indoor or outdoor use
NOTE: Voltage and amp range selected may change component layout in enclosure
2. Vents for VFD cooling
3. Fan and thermostat for 5 HP (simplex) and 7.5 HP (duplex) and larger HP models
4. Raised terminals for easy field connections
5. Circuit breaker disconnect(s)
6. Variable Frequency Drive(s)
7. Fan control circuit breaker (240V models only)
8. Control transformer (480V models only - not shown)
9. Externally mounted run indicator LEDs (duplex)
10. Externally mounted pump Hand-Off-Auto selector switches (duplex)
11. VFD display
 - a. 4 Line/20 character display
 - b. Rotary/push button for menu navigation and editing
 - c. Left arrow button
 - d. ESC button
 - e. Run indicator LEDs
 - f. Fault indicator LED

VARIOSPEED® 3R SIMPLEX/DUPLEX CONTROL PANELS - Variable Frequency Drive controller in a NEMA 3R enclosure for indoor or outdoor use.

Variable Speed

VARIOSPEED® 3R SIMPLEX CONTROL PANEL							
Part #	Description	Model	Output Amp	HP	Input Phase	Output Phase	Shipping Weight
1030983	VARIOspeed® 3R, 240V	VS21-7.0-N3R	7.0	1.5	1	3	31 lbs.
1030984	VARIOspeed® 3R, 240V	VS21-10.0-N3R	10.0	3	1	3	32 lbs.
1039107	VARIOspeed® 3R, 240V	VS23-16.5-N3R	16.5	5	3	3	31 lbs.
1030985	VARIOspeed® 3R, 240V	VS23-31.8-N3R	31.8	7.5 - 10	3	3	35 lbs.
1039108	VARIOspeed® 3R, 240V	VS23-45.0-N3R	45.0	15	3	3	42 lbs.
1039109	VARIOspeed® 3R, 240V	VS23-58.0-N3R	58.0	20	3	3	42 lbs.
1060917	VARIOspeed® 3R, 480V	VS43-8.0-N3R	8.0	3-5	3	3	47 lbs.
1039110	VARIOspeed® 3R, 480V	VS43-16.0-N3R	16.0	7.5 - 10	3	3	47 lbs.
1039111	VARIOspeed® 3R, 480V	VS43-29.5-N3R	29.5	15 - 20	3	3	47 lbs.

VARIOSPEED® 3R DUPLEX CONTROL PANEL							
Part #	Description	Model	Output Amp	HP	Input Phase	Output Phase	Shipping Weight
1051672	VARIOspeed® 3RD, 240V	VS21-7.0-N3RD	7.0	1.5	1	3	115 lbs.
1051673	VARIOspeed® 3RD, 240V	VS21-10.0-N3RD	10.0	3	1	3	115 lbs.
1051674	VARIOspeed® 3RD, 240V	VS23-16.5-N3RD	16.5	5	3	3	115 lbs.
1051675	VARIOspeed® 3RD, 240V	VS23-31.8-N3RD	31.8	7.5 - 10	3	3	146 lbs.
1051676	VARIOspeed® 3RD, 240V	VS23-45.0-N3RD	45.0	15	3	3	154 lbs.
1051677	VARIOspeed® 3RD, 240V	VS23-58.0-N3RD	58.0	20	3	3	154 lbs.
1060918	VARIOspeed® 3RD, 480V	VS43-8.0-N3RD	8.0	3 - 5	3	3	150 lbs.
1051678	VARIOspeed® 3RD, 480V	VS43-16.0-N3RD	16.0	7.5 - 10	3	3	150 lbs.
1051679	VARIOspeed® 3RD, 480V	VS43-29.5-N3RD	29.5	15 - 20	3	3	161 lbs.

NOTE: HP rating is based on standard NEMA B 4-pole motor (used for indication only, use nameplate FLA for sizing). The output voltage of the VFD cannot exceed the incoming voltage. Example: 208V in, 208V out (max).

SELECTING THE CORRECT VFD

1. Determine the voltage available on site.
2. Select a pump with the same voltage (motor must be three phase).
3. Check pump motor nameplate Full Load Amps (FLA) for proper VFD sizing.
4. Select a VFD with an output amp rating higher than motor FLA.
5. Use motor Service Factor Amps (SFA) for submersible well pump applications for VFD sizing.

PHASE CONVERSION**

It is possible to supply single phase 240V input power to VS23 models. The VFD output amp must be derated by 50%.

Example: The VS23-45.0-N3RD will be derated to 22.5A output (max).

**Use three phase input power if available. VS23 VFD's are not UL listed with single phase supply. Always use a three phase motor.

MAXIMUM MOTOR CABLE LENGTHS

For 208V-240V pumps: 400 ft. For cable lengths greater than 400 ft., use a load reactor. Do not exceed 800 ft.

For 480V pumps: 50 ft. For cable lengths greater than 50 ft., use a load reactor. Do not exceed 300 ft.

SPECIFICATIONS

POWER: Available HP range
(208V-240V) 1.5HP - 20HP
(480V) 3HP - 20HP

CONTROL: PID control
Adjustable electronic overload
Auto Start on pressure drop (adjustable)
Auto Stop on low Hz (No-Flow - sleep mode)

PRESSURE TRANSDUCER: 0-200 PSI (included) 1/4" NPT Male, NEMA 4X rated with 20 ft cable. One-year limited warranty on pressure transducer.

ENVIRONMENTAL: Operating temperature: 14°F to 104°F (-10°C to 40°C)
Storage temperature: -4°F to 131°F (-20°C to 55°C)
Altitude: Maximum of 3,280 ft (1,000 m) above sea level